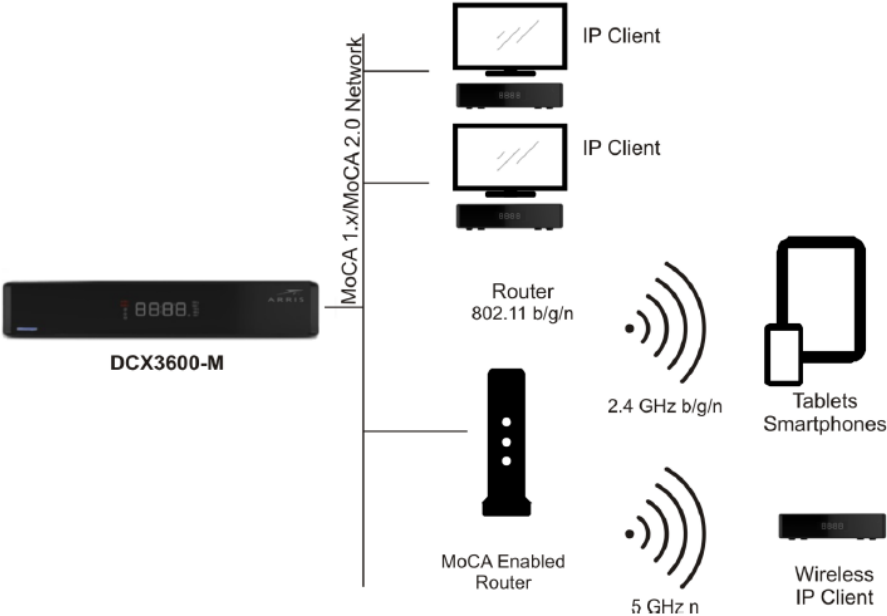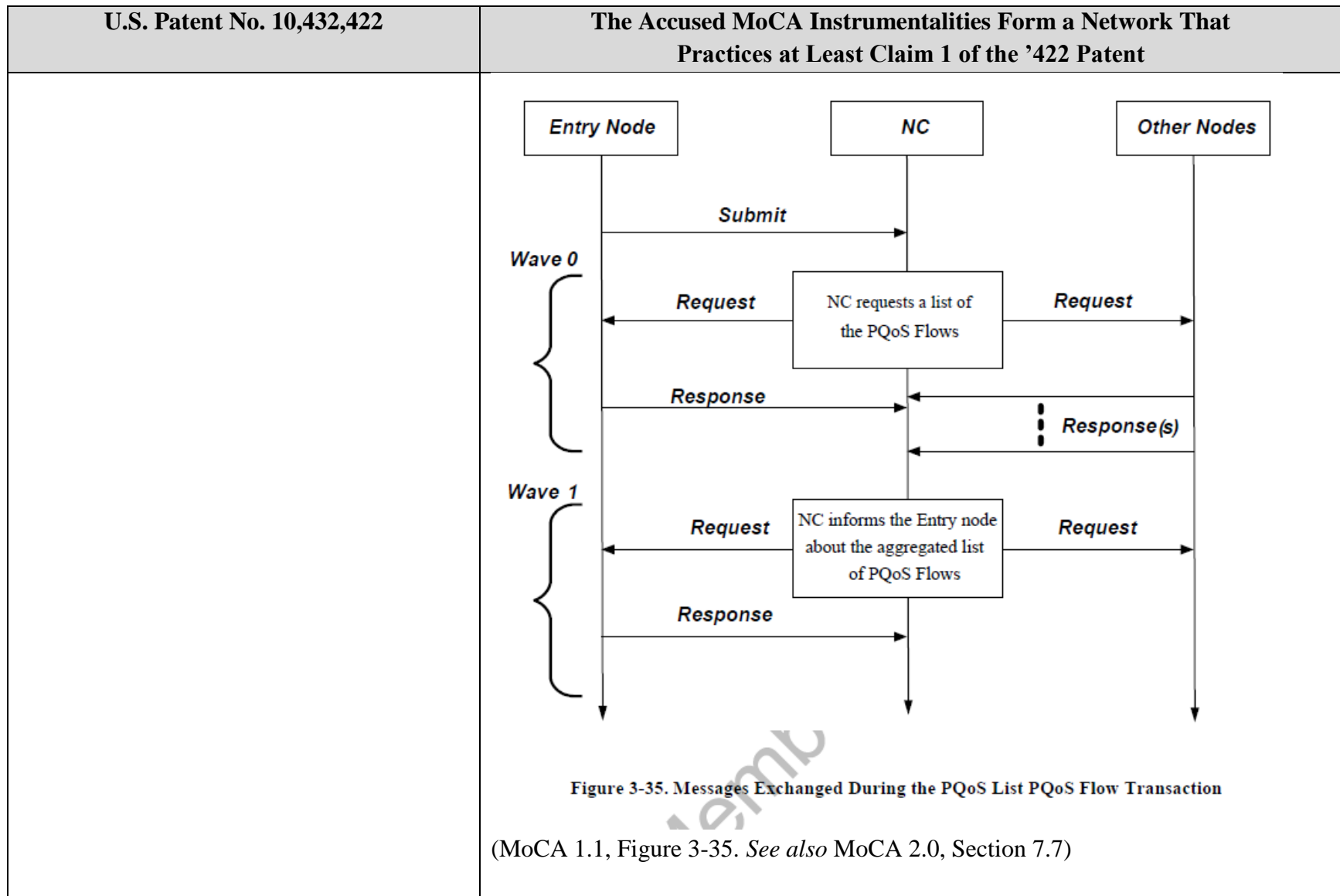# EXHIBIT 10

U.S. Patent No. 10,432,422 ("the '422 Patent") Exemplary Infringement Chart

The Accused MoCA Instrumentalities are instrumentalities that Charter deploys to provide a whole-premises DVR network over an on-premises coaxial cable network, with devices operating with data connections compliant with MoCA 1.0, 1.1, and/or 2.0. The Accused MoCA Instrumentalities include the Charter Arris DCX3510, Charter Arris DCX3520, Charter Arris DCX3600, Charter Arris DCX3200, Charter Arris DCX3220, and substantially similar instrumentalities. Charter literally and/or under the doctrine of equivalents infringes the claims of the '422 Patent under 35 U.S.C. § 271(a) by making, using, selling, offering for sale, and/or importing the Accused MoCA Instrumentalities.
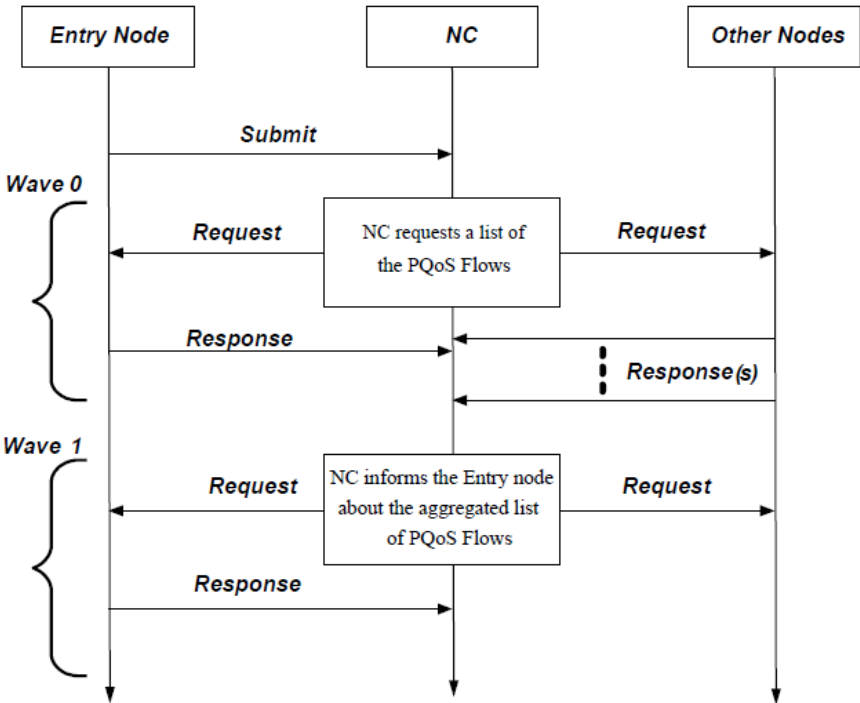
U.S. Patent No. 10,432,422	The Accused MoCA Instrumentalities Form a Network That Practices at Least Claim 1 of the '422 Patent
1. A communication network comprising:	The Accused Services are provided using at least the Accused MoCA Instrumentalities including gateway devices (including, but not limited to, the Charter Arris DCX3510, Charter Arris DCX3520, Charter Arris DCX3600, and devices that operate in a similar manner), client devices (including, but not limited to, the Charter Arris DCX3200, Charter Arris DCX3220, and devices that operate in a similar manner), and substantially similar instrumentalities. The Accused MoCA Instrumentalities operate to form a data communication network over an on-premises coaxial cable network as described below. The Charter full-premises DVR network constitutes a data communication network as claimed. The Charter full-premises DVR network is a MoCA network created between gateway devices and client devices using the on-premises coaxial cable network. This MoCA network is compliant with MoCA 1.0, 1.1, and/or 2.0. "The MoCA system network model creates a coax network which supports communications between a convergence layer in one MoCA node to the corresponding convergence layer in another MoCA node." (MoCA 1.1, Section 1.1. *See also* MoCA 2.0, Section 1.2.2)

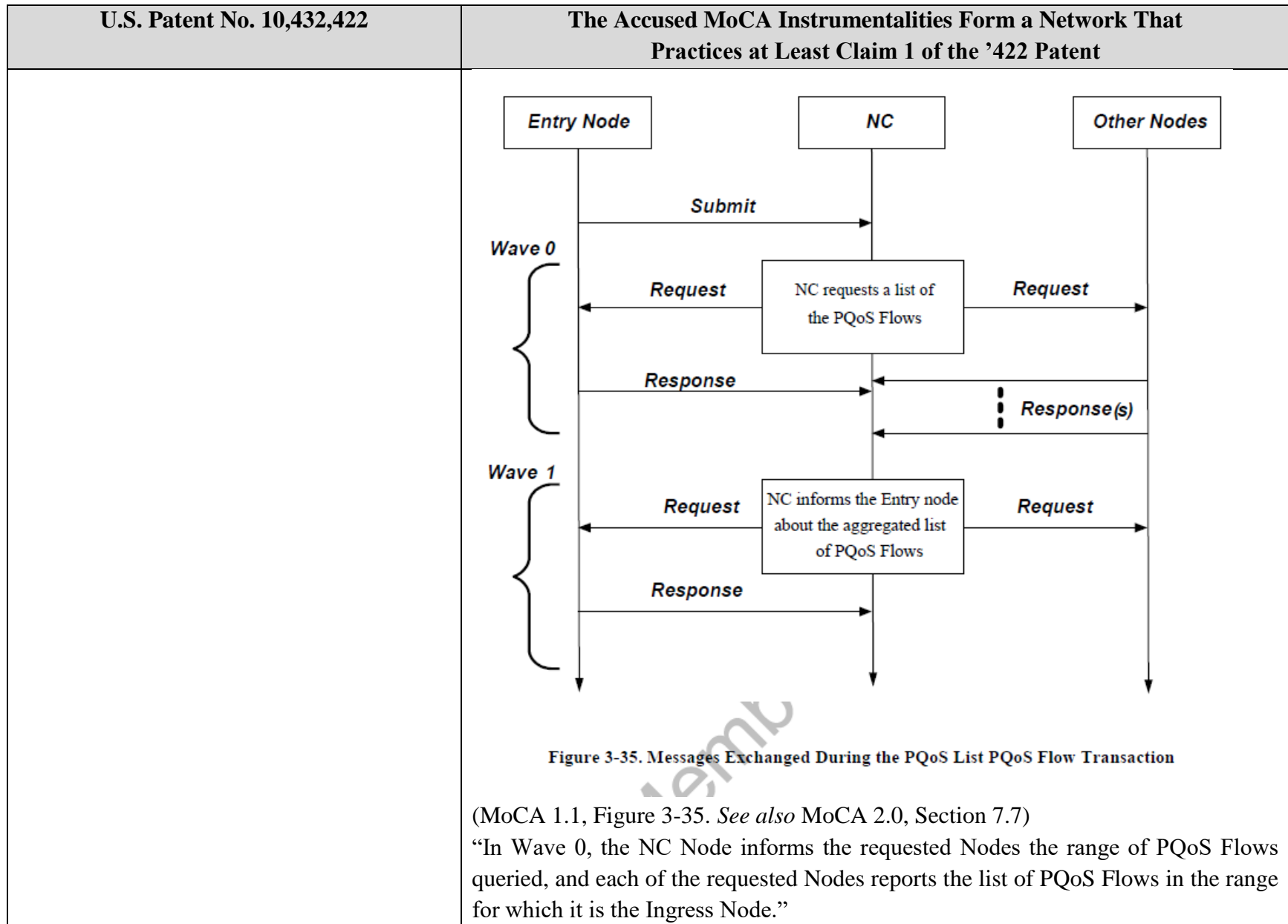| U.S. Patent No. 10,432,422	The Accused MoCA Instrumentalities Form a Network That Practices at Least Claim 1 of the '422 Patent
	"The MoCA Network transmits high speed multimedia data over the in-home coaxial cable infrastructure." (MoCA 1.1, Section 2. *See also* MoCA 2.0, Section 5) Charter utilizes the MoCA standard to provide an on-premises DVR network over an on-premises coaxial cable network as shown below: **MoCA Router Connection** Figure 5 - A Typical Mixed MoCA/WiFi Home Network

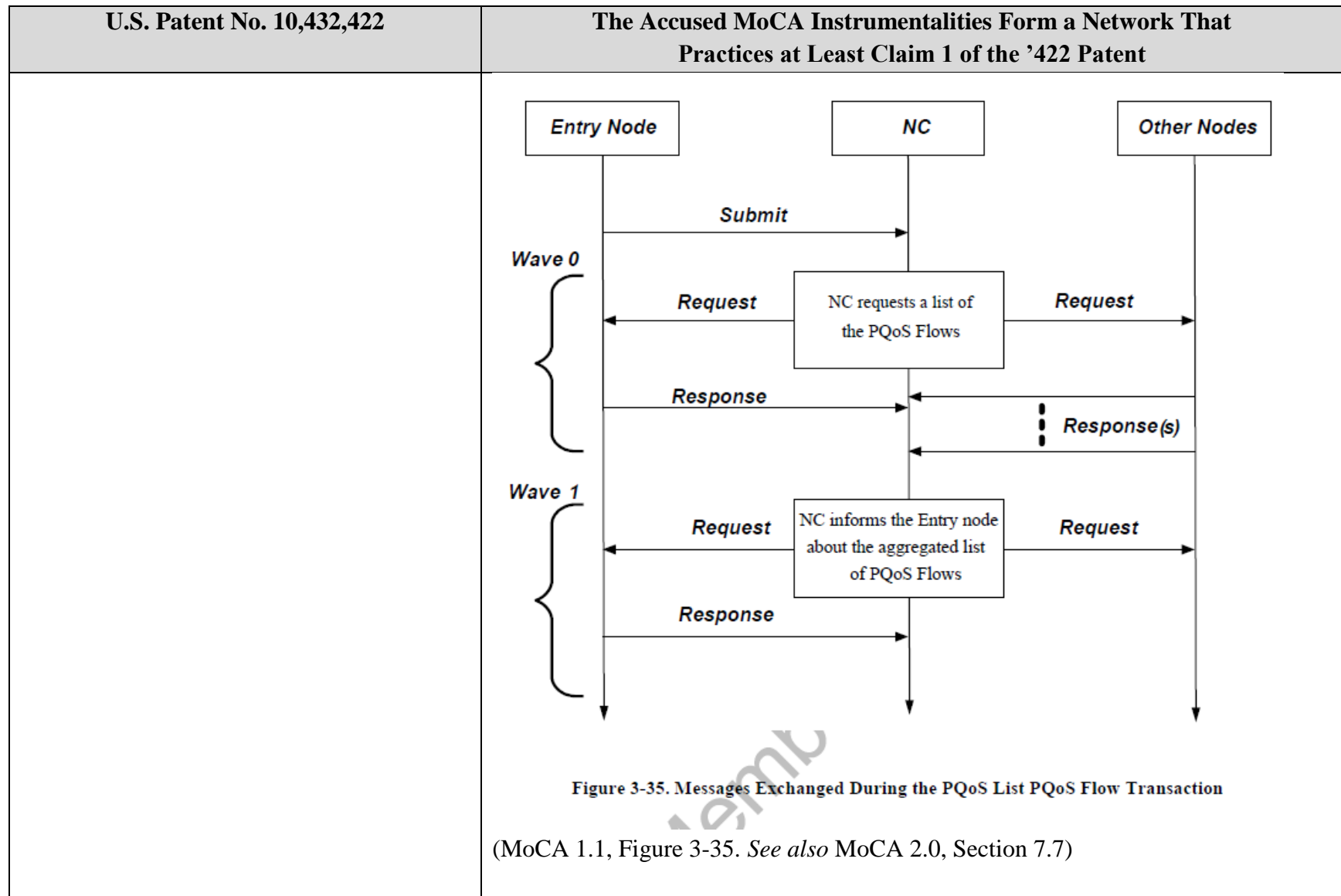| U.S. Patent No. 10,432,422	The Accused MoCA Instrumentalities Form a Network That Practices at Least Claim 1 of the '422 Patent
a requesting node;	The Accused MoCA Instrumentalities operate as a requesting node as described below. For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities include circuitry and/or associated software modules constituting a requesting node. "The purpose of the List PQoS Flow Transaction is to enable any Node to retrieve the list of PQoS flows in the MoCA Network." (MoCA 1.1, Section 3.17.5. *See also* MoCA 2.0, Section 7.7)

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	Figure 3-35. Messages Exchanged During the PQoS List PQoS Flow Transaction (MoCA 1.1, Figure 3-35. *See also* MoCA 2.0, Section 7.7)

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	"Any Node can initiate the List PQoS Flow Transaction. The Transaction starts when the Entry Node sends a Submit L2ME Frame (explained in Section 3.15.2.3.1) to the NC Node." (MoCA 1.1, Section 3.17.5.1. *See also* MoCA 2.0, Section 7.7)
a Network Coordinator (NC) node; and	The Accused MoCA Instrumentalities operate as a Network Coordinator (NC) node as described below. For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities include circuitry and/or associated software modules constituting a Network Coordinator (NC) node. "Network Coordinator (NC) – A MoCA node that performs the following salient functions in a MoCA Network: Beacon generation, MAP generation, admission of new MoCA nodes to the network, privacy key generation and distribution, and LMO scheduling." (MoCA 1.1, Section 1.2. *See also* MoCA 2.0, Section 3)

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U.S. Patent No. 10,432,422	The Accused MoCA Instrumentalities Form a Network That Practices at Least Claim 1 of the '422 Patent
	  Figure 3-35. Messages Exchanged During the PQoS List PQoS Flow Transaction (MoCA 1.1, Figure 3-35. *See also* MoCA 2.0, Section 7.7)
a plurality of requested nodes, wherein:	The Accused MoCA Instrumentalities operate as a plurality of requested nodes as described below. For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities include circuitry and/or associated software modules constituting a plurality of requested nodes.

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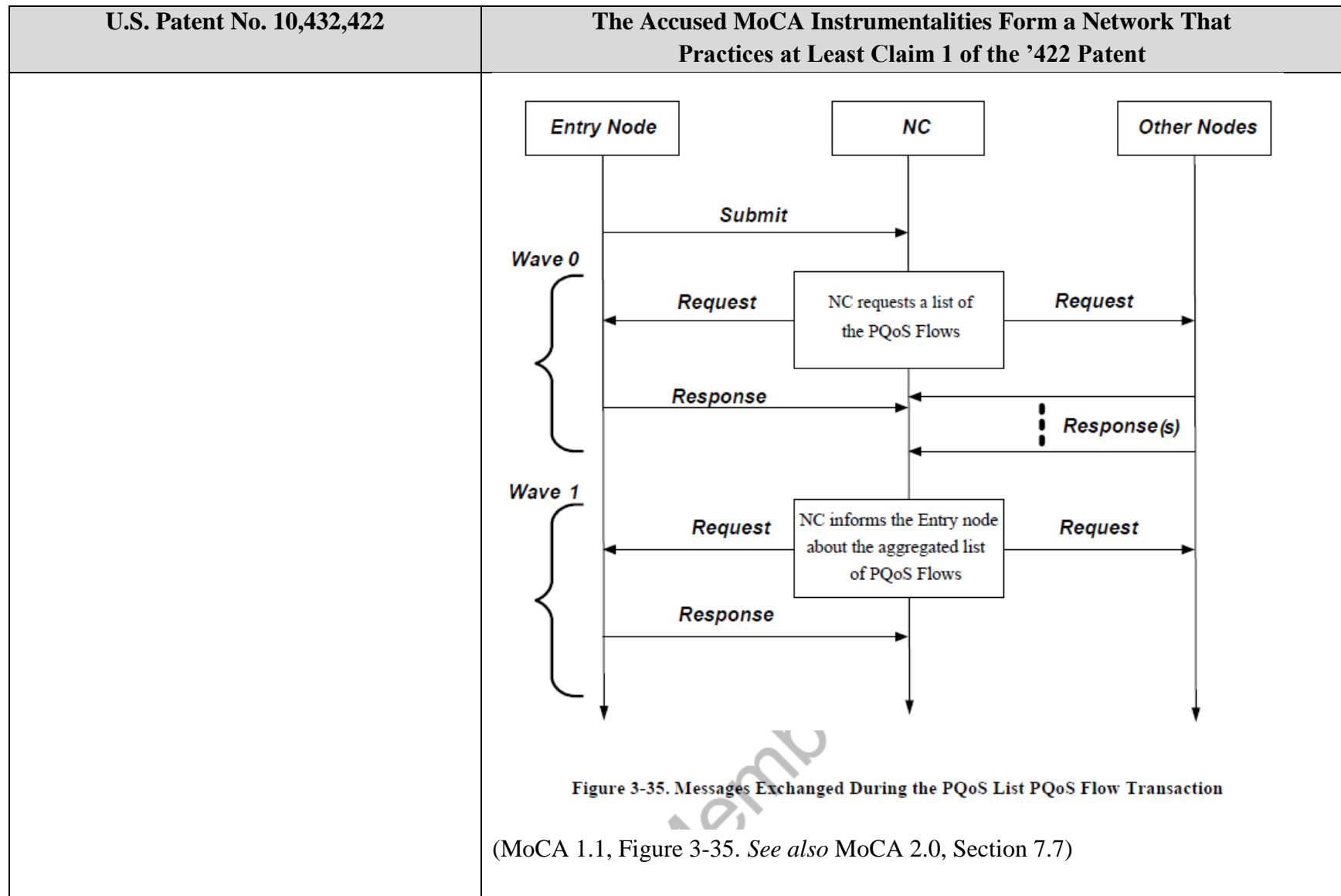| U.S. Patent No. 10,432,422	The Accused MoCA Instrumentalities Form a Network That Practices at Least Claim 1 of the '422 Patent
	"The purpose of the List PQoS Flow Transaction is to enable any Node to retrieve the list of PQoS flows in the MoCA Network." (MoCA 1.1, Section 3.17.5. *See also* MoCA 2.0, Section 7.7)

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Figure 3-35. Messages Exchanged During the PQoS List PQoS Flow Transaction

(MoCA 1.1, Figure 3-35. *See also* MoCA 2.0, Section 7.7)

"In Wave 0, the NC Node informs the requested Nodes the range of PQoS Flows queried, and each of the requested Nodes reports the list of PQoS Flows in the range for which it is the Ingress Node." |

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	(MoCA 1.1, Section 3.17.5.2. *See also* MoCA 2.0, Section 7.7)
the requesting node is operable to, at least, communicate a first message to the NC node requesting a list comprising parameterized quality of service (PQoS) flows of the communication network; and	The requesting node is operable to, at least, communicate a first message to the NC node requesting a list comprising parameterized quality of service (PQoS) flows of the communication network as described below. For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities include circuitry and/or associated software modules operable to, at least, communicate a first message to the NC node requesting a list comprising parameterized quality of service (PQoS) flows of the communication network. "The PQoS Flow transactions for Nodes can be classified into two main groups as follows: […] Flow management PQoS transactions, which include […] List PQoS Flow transaction." (MoCA 1.1, Section 3.17.1. *See also* MoCA 2.0, Section 7.7) "The purpose of the List PQoS Flow Transaction is to enable any Node to retrieve the list of PQoS flows in the MoCA Network." (MoCA 1.1, Section 3.17.5. *See also* MoCA 2.0, Section 7.7)

U.S. Patent No. 10,432,422	The Accused MoCA Instrumentalities Form a Network That Practices at Least Claim 1 of the '422 Patent
	Figure 3-35. Messages Exchanged During the PQoS List PQoS Flow Transaction (MoCA 1.1, Figure 3-35. *See also* MoCA 2.0, Section 7.7)

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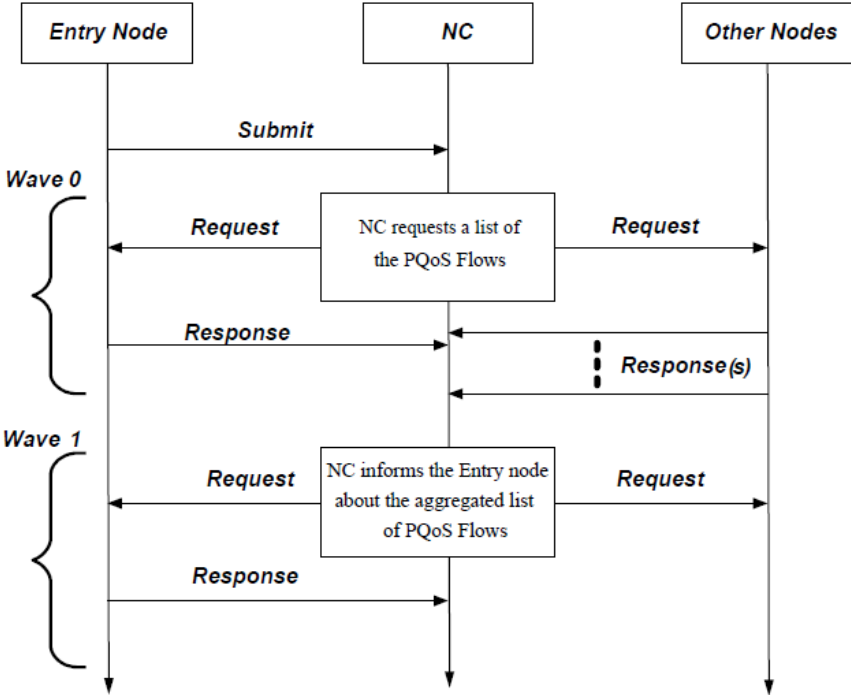| U.S. Patent No. 10,432,422	The Accused MoCA Instrumentalities Form a Network That Practices at Least Claim 1 of the '422 Patent
	"Any Node can initiate the List PQoS Flow Transaction. The Transaction starts when the Entry Node sends a Submit L2ME Frame (explained in Section 3.15.2.3.1) to the NC Node." (MoCA 1.1, Section 3.17.5.1. *See also* MoCA 2.0, Section 7.7)
the NC node is operable to, at least: receive the first message from the requesting node; and	The NC node is operable to, at least: receive the first message from the requesting node as described below. For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities include circuitry and/or associated software modules operable to, at least: receive the first message from the requesting node. "The Transaction starts when the Entry Node sends a Submit L2ME Frame (explained in Section 3.15.2.3.1) to the NC Node." (MoCA 1.1, Section 3.17.5.1. *See also* MoCA 2.0, Section 7.7)
in response to the received first message: communicate a second message to each requested node of the plurality of requested nodes, the second message requesting from said each requested node a list identifying PQoS flows for which said each requested node is an ingress node;	The Accused MoCA Instrumentalities operate to, in response to the received first message: communicate a second message to each requested node of the plurality of requested nodes, the second message requesting from said each requested node a list identifying PQoS flows for which said each requested node is an ingress node as described below. For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities include circuitry and/or associated software modules that, in response to the received first message: communicate a second message to each requested node of the plurality of requested nodes, the second message requesting from said each requested node a list identifying PQoS flows for which said each requested node is an ingress node.

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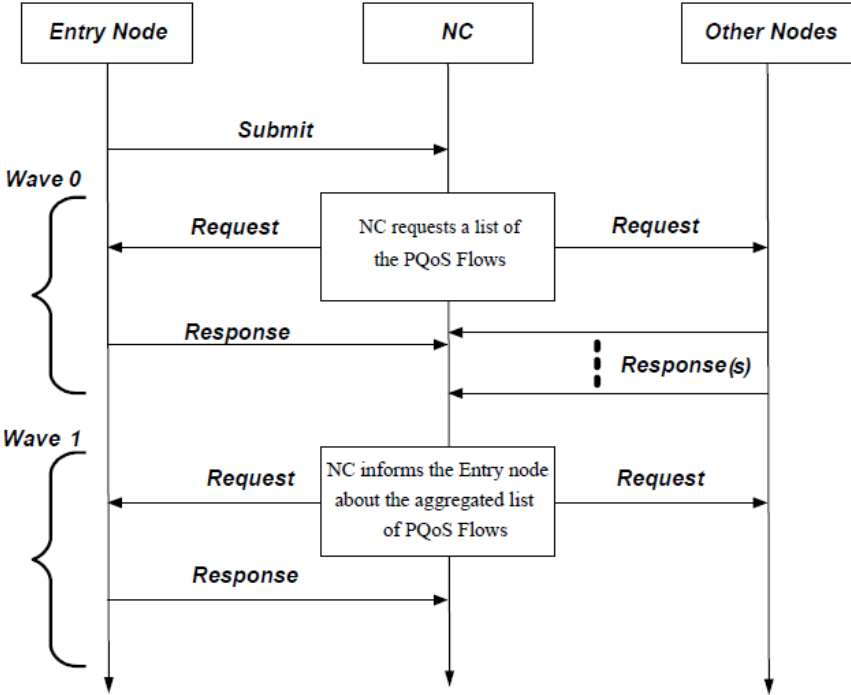| U.S. Patent No. 10,432,422	The Accused MoCA Instrumentalities Form a Network That Practices at Least Claim 1 of the '422 Patent
	"In Wave 0, the NC Node informs the requested Nodes the range of PQoS Flows queried, and each of the requested Nodes reports the list of PQoS Flows in the range for which it is the Ingress Node." (MoCA 1.1, Section 3.17.5.2. *See also* MoCA 2.0, Section 7.7) "Each Node MUST maintain a logical table for information related to each PQoS Flow for which it is the Ingress Node. The entries in this logical table MUST be numbered contiguously from 0. The ordering of elements in this table only changes when value of FLOW_UPDATE_COUNT changes. Thus, the Entry Node can build up a complete list of information for PQoS Flows from an Ingress Node by selecting which entry in the Ingress Node's logical table to start the response list from." (MoCA 1.1, Section 3.17.5.1. *See also* MoCA 2.0, Section 7.7)

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	Figure 3-35. Messages Exchanged During the PQoS List PQoS Flow Transaction (MoCA 1.1, Figure 3-35. *See also* MoCA 2.0, Section 7.7)

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U.S. Patent No. 10,432,422	The Accused MoCA Instrumentalities Form a Network That Practices at Least Claim 1 of the '422 Patent
receive, from said each requested node a respective third message comprising a list identifying PQoS flows for which said each requested node is an ingress node;	The Accused MoCA Instrumentalities operate to receive, from said each requested node a respective third message comprising a list identifying PQoS flows for which said each requested node is an ingress node as described below. For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities include circuitry and/or associated software modules that receive, from said each requested node a respective third message comprising a list identifying PQoS flows for which said each requested node is an ingress node. "The NC Node MUST initiate Wave 0 using Request L2ME Frame format (explained in Section 0) based on the Submit L2ME Frame format shown in Table 3-58 to the Node that MUST provide a Response." (MoCA 1.1, Section 3.17.5.2.1. *See also* MoCA 2.0, Section 7.7)) "The queried Node MUST respond with a Response L2ME Frame (format as explained in Section 3.15.2.3.3)." (MoCA 1.1, Section 3.17.5.2.2. *See also* MoCA 2.0, Section 7.7) "Each Node MUST maintain a logical table for information related to each PQoS Flow for which it is the Ingress Node. The entries in this logical table MUST be numbered contiguously from 0. The ordering of elements in this table only changes when value of FLOW_UPDATE_COUNT changes. Thus, the Entry Node can build up a complete list of information for PQoS Flows from an Ingress Node by selecting which entry in the Ingress Node's logical table to start the response list from." (MoCA 1.1, Section 3.17.5.1. *See also* MoCA 2.0, Section 7.7)

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	Table 3-59. L2ME_PAYLOAD of Response L2ME Frame Format for List PQoS Flow Transaction (Wave 0) <table><tr><th>Field</th><th>Length</th><th>Usage</th></tr><tr><td colspan="3">Response L2ME Payload for List PQoS Flow</td></tr><tr><td>RESERVED</td><td>24 bits</td><td>Type III</td></tr><tr><td>FLOW UPDATE COUNT</td><td>8 bits</td><td>The value of a counter that increments on the queried Node whenever the logical table of PQoS Flow IDs on that Node changes</td></tr><tr><td>TOTAL FLOW ID COUNT</td><td>32 bits</td><td>Total number of PQoS Flows for which this Node is the Ingress Node</td></tr><tr><td colspan="3">RETURNED FLOW IDs (up to 32 flow IDs)</td></tr><tr><td>For (i=0; i<N; i++) {</td><td></td><td>N = Number of returned flow IDs</td></tr><tr><td>RETURNED FLOW ID</td><td>48 bits</td><td>Returned PQoS Flow ID</td></tr><tr><td>RESERVED</td><td>16 bits</td><td>Type III</td></tr><tr><td>}</td><td></td><td></td></tr></table> (MoCA 1.1, Table 3-59. *See also* MoCA 2.0, Section 7.7) "The RETURN FLOW ID field in the Response L2ME Payload for List PQoS Flow Transaction are arranged as a list, starting with FLOW_START_INDEX entry in the Node's logical table and with up to the maximum number of PQoS Flows as specified by FLOW_MAX_RETURN." (MoCA 1.1, Section 3.17.5.2.2. *See also* MoCA 2.0, Section 7.7)
form an aggregated list of PQoS flows comprising each respective list identifying PQoS flows from each received third message; and	The Accused MoCA Instrumentalities operate to form an aggregated list of PQoS flows comprising each respective list identifying PQoS flows from each received third message as described below. For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities include circuitry and/or associated software modules that form an aggregated list of PQoS flows comprising each respective list identifying PQoS flows from each received third message.

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	"In Wave 1, the NC Node informs the Entry Node and interested Nodes about the aggregated list of PQoS flows found in Wave 0." (MoCA 1.1, Section 3.17.5.3. *See also* MoCA 2.0, Section 7.7) "The NC Node MUST initiate Wave 1 using Request Frame format with the concatenated responses from Wave 0. The format of a concatenated Request Frame is described in Section 3.15.2.3.2." (MoCA 1.1, Section 3.17.5.3.1. *See also* MoCA 2.0, Section 7.7) *See also* MoCA 1.1, Table 3-41; MoCA 2.0, Section 7.7.
communicate a fourth message to at least the requesting node comprising the aggregated list,	The Accused MoCA Instrumentalities operate to communicate a fourth message to at least the requesting node comprising the aggregated list as described below. For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities include circuitry and/or associated software modules that communicate a fourth message to at least the requesting node comprising the aggregated list. "In Wave 1, the NC Node informs the Entry Node and interested Nodes about the aggregated list of PQoS flows found in Wave 0." (MoCA 1.1, Section 3.17.5.3. *See also* MoCA 2.0, Section 7.7) "The NC Node MUST initiate Wave 1 using Request Frame format with the concatenated responses from Wave 0. The format of a concatenated Request Frame is described in Section 3.15.2.3.2." (MoCA 1.1, Section 3.17.5.3.1. *See also* MoCA 2.0, Section 7.7)

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	Figure 3-35. Messages Exchanged During the PQoS List PQoS Flow Transaction (MoCA 1.1, Figure 3-35. *See also* MoCA 2.0, Section 7.7)
wherein the second message specifies a range of PQoS flows being queried.	The second message specifies a range of PQoS flows being queried as described below. For example, the second message specifies a range of PQoS flows being queried in compliance with MoCA.

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	"In Wave 0, the NC Node informs the requested Nodes the range of PQoS Flows queried, and each of the requested Nodes reports the list of PQoS Flows in the range for which it is the Ingress Node." (MoCA 1.1, Section 3.17.5.2. *See also* MoCA 2.0, Section 7.7) Figure 3-35. Messages Exchanged During the PQoS List PQoS Flow Transaction (MoCA 1.1, Figure 3-35. *See also* MoCA 2.0, Section 7.7)

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